

REMARKS

Reconsideration of the Office Action of August 28, 2007 is respectfully requested. Included herewith is a check to cover the one additional excess claim presented herein.

To summarize the claim changes made herein:

- A) Independent claim 1 has been amended to clearly present the nature of the locking means of the present invention.
- B) Independent claim 35 has been amended to include the language of claim 39 (now canceled) and further includes an indication that one of the caps is in contact with the locking means.
- C) Dependent claims 48-50 and 54 and 55 have been newly canceled.
- D) New dependent claims 63/1 and 64/1 have been added.
- E) New independent claim 65 and dependents 66-69 have been added.

As the claim language in the amended and new claims finds support in the original application and the language is generally considered to correspond with earlier presented claims, no new matter is submitted to have been introduced. Further, the newly added claims are respectfully submitted to fall within the restriction election earlier made.

In the Office Action claims 1-34, 39 and 56-60 were rejected under 35 U.S.C. § 112, second paragraph, on the perceived basis of being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

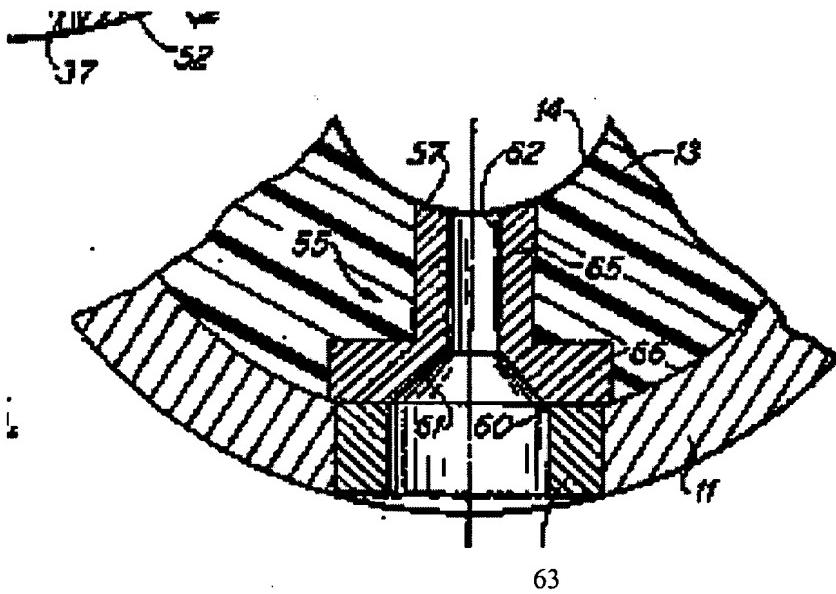
Reference was made to claim 1 and there was indicated that it was not considered clear what adjustment of the reception chamber was prevented by the locking means. Claim 1 has been amended to further clarify the function, relative to claim 1, of the locking means preventing (at least) a pull back of the chamber against the bias direction of the compression means. It is respectfully submitted that claim 1 is in full compliance with 35 U.S.C. § 112, second paragraph, and that the specification is in full compliance with 35 U.S.C. § 112, first paragraph. Withdrawal of the 35 U.S.C. § 112, first paragraph rejection relative to the specification is also respectfully requested.

The Office Action further includes a rejection under 35 U.S.C. § 102(b) directed at claims 1, 2, 4, 5, 20, 21, 23-30, 34, 56-58 and 60-62 under 35 U.S.C. § 102(b) as being felt to be anticipated by U.S. Patent No. 5,186,905 to Bertram et al. For the reasons set out below this anticipated rejection is respectfully traversed.

In the Office Action reliance is placed on the port setting ring 63 as a teaching of the locking means of the present invention. Also, in the "Response to Arguments" portion of the Final Office Action, there is indicated that there is no mention made in the specification that the reception chamber is adjustable. As to this latter point, reference is made to the numbered paragraphs 2 to 5 appearing on pages 14 and 15 of the present application which describe the potential movement or adjustment of the chamber, with such movement being considered made possible due, for example, to the nature of the compression device and which movement, even if minute, potentially over time can create a great deal of dispenser system degradation.

There is further indicated in "Response to Arguments" that the setting ring 63 in Bertram '905 "locks and prevents the block from moving in any direction". This assertion is respectfully traversed, as well, for the reasons set forth below.

It is presumed from the Office Action that the assertion raised by the Examiner is that the slight extension of the press fit rig within a circular encompassing ring of the cold fluid material represents the "locking means" of the claimed invention.



In other words, it is presumed that the Examiner is asserting that the locking means of Bertram '905 (an inventor of the present application as well) is a portion of each of the flat press-fit rings 63 that comes in contact with the cold flow main body that follows the curvature of the interior housing behind (or into the paper) the press fit ring. That is, it is presumed that the Examiner is asserting that if you extend a dashed line that follows the

curvature of the interior surface of the housing from corner edge to corner edge of the block of cold flow material shown in cross-section across the press fit ring region, that material would be in contact with the portion of the flat press-fit ring not following the contour.

Applicants (including the inventor Bertram of the '905 patent) point out that the Belleville stack shown in Bertram '905 generates a compressive load of about 150 psi. Applicants further note that the bonding forces between the Teflon mixing chamber inside diameter and the outside diameter of the valving rod are considered to exceed 300 psi. So if one was to use the difference (300-150=150) as the load that the port retainers would be subjected to if the embodiment shown in Bertram '905 is used, an estimated sheer load force of 110,000 psi number is derived from that force when divided by the small area of contact between the mixing chamber and the port retainer rings.

In other words, the shear load that a typical Teflon Mixing Chamber would see under a 300 pound axial load - if the only points of contact were the press-fit rings on each port, is considered to be 110,000 psi. Applicants note that loads at this level would challenge even the strength of steel and Applicants further assert that there is no way that Teflon, being the soft and flowable polymer that it is, could stand up to loads such as these. For example, Applicants note that the Tensile strength of Teflon (at break) is only 3,000 psi. A shear load of 110,000 psi would cause the press fit rings 63 to cut through Teflon like a hot knife through butter. In fact, the Applicants are of the belief that if such an arrangement like that shown in the above-presented Figure from Bertram '905 were utilized significant scratching in the Teflon would occur leading to significant leakage problems.

Applicants also note the fact that the Belleville Washers used to compress the Teflon in a mixing chamber like that of Bertram '905 are designed so that the Teflon material will flow and seal. Thus, the washer set need only exert a load in the range of 1,000 psi to achieve this cold flow seal effect. These relatively small loads are enough to cause Teflon to flow and deform sufficiently to seal fluids at high pressures but are significantly below the sheer forces described above. Accordingly, Applicants note that the tiny press-fit ring design, presumed to be relied upon in the Office Action as set out above, could not act as an axial retainer for the mixing chamber in the load ranges experienced in a conventional system like that of Bertram '905.

Thus, it is clear from the above analysis that the asserted port rings 63 do not provide the claimed locking means of the present invention and in fact are considered designed so as

to tear into the cold flow block upon a binding situation, thus leading to additional problems with leakage in addition to the shifting port opening problem described in the background of the invention. Accordingly, it is respectfully submitted that claim 1 and its dependents are not anticipated (or rendered obvious) by the relied upon references.

As noted above, independent claims 8 and 11 represent allowable subject matter/objection to claims that have been rewritten in independent fashion and, for the reason set out above, are respectfully submitted to be in condition for allowance as the presently stand.

Also, for the reasons set out above, it is submitted that withdrawn claim 35 can also be deemed ready for immediate allowance as the Brown reference (relied upon as a secondary reference in a 35 U.S.C. § 103 rejection relative to claims 31-33 and 59 depending from claim 1 and independent claim 35 and some of its dependents) also fails to disclose or support in any fashion or arrangement that would remedy the above-noted deficiency in Bertram '905.

Lastly, new independent claim 65 is submitted to be in immediate condition for allowance for the reasons set out above and also noting that Bertram '905 has only a radially inwardly extending port ring as would be expected in view of its port retention function

In view of the foregoing it is respectfully submitted that all claims are allowable and that the application stands in condition for allowance. Favorable reconsideration at the Examiner's earliest convenience is thus respectfully requested.

If for any reason any fee is deemed required relative to this filing, authorization is given to charge deposit account no. 02-4300 for such fee.

Respectfully submitted,
SMITH, GAMBRELL & RUSSELL, LLP

By: 
Dennis C. Rodgers, Registration No. 32,936
1130 Connecticut Avenue, N.W., Suite 1130
Washington, DC 20036
Telephone: 202/263-4300
Facsimile: 202/263-4329

Date: November 28, 2007